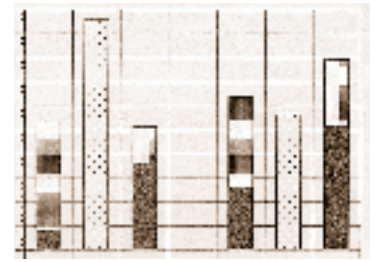


Ten Years After Surveying Misconceptions About the Human Past



On one of those ubiquitous entertainment/news shows that have exploded onto our television sets in the last few years, a survey was conducted among watchers concerning their opinions on things paranormal. There certainly was no attempt to obtain a non-biased sample. In fact, polling watchers of such a show virtually guaranteed a non-representative slice of the American public. Nevertheless, the results were interesting. More than a quarter of the participants believed in the accuracy of dreams in foretelling the future, 12% believed in the utility of astrological forecasts, and 22% accepted the reality of clairvoyance in prognostication. In the same sample, 3% of those responding also expressed confidence in the accuracy of predictions contained in fortune cookies! None of these figures inspires great confidence in the rationality of at least the element of the American public that watches such shows.

Testing Student's Preconceptions

What about that sub-sample of the American public that attends college and enrolls in an introductory course in anthropology or archeology? In 1983, I conducted a survey among 186 undergraduate students, focusing on student perceptions about science and the scientific method with a particular emphasis on their understanding of the human past.^{1, 2} In my original survey, students were presented with a series of 50 statements and were asked to rate them on a Likert-type scale (1=strongly believe, 2=mildly believe, 3=don't know, 4=mildly disbelieve, 5=strongly disbelieve). The statements students were presented with ranged widely from simple declarations like "Nothing can go faster than the speed of light," to the more exotic including "UFOs are actual spacecraft from other planets," and "Reincarnation is an established fact."

As mentioned, the survey contained a number of statements for the students to rate that specifically related to the human past. Again, these ranged from widely accepted assertions like "Human beings came about through evolution," to the decidedly less-well accepted like "There is good evidence for the Lost Continent of Atlantis,"

and even "Aliens from other worlds visited the earth in the prehistoric past." Also included in the 50 statements that students were to judge were those related to the human past informed by a literal interpretation of the Old Testament of the Bible. Included here were assertions like, "Adam and Eve were the first human beings," and "The flood of Noah as told in the Bible actually happened."

Survey results revealed relatively high levels of student belief in unsubstantiated claims about the human past, with percentages of those expressing either strong or mild belief ranging from 12% to about 50%. Perhaps most revealing, however, the survey showed that belief in such claims was mild. On most topics including those with relatively high overall levels of belief, strong or "true believers" were few. Equally significantly, the overwhelming majority of students were fence straddlers on many of these issues, more often than not responding that they simply did not know if there was a curse on King Tut's tomb that killed people or whether or not Bigfoot was a real animal.

Three years later, in 1986, the original survey was expanded and administered to a total of about 1,000 students at Central Connecticut State University, the University of Texas at Arlington, Texas Christian University, the University of Southern California, and Occidental College (also in California).^{3, 4} Though there were a number of geographic differences in student responses, overall results were similar to those of the original survey restricted to my students in Connecticut.⁵

It occurred to me that it would be useful in the context of this publication to repeat the survey, now 10-plus years after its original application, focusing only on those statements in the original survey directly related to the human past (figure 1). I was extremely curious to see if a decade has made a difference in student credulity, skepticism, perceptions, or knowledge about the human past. I administered the survey to undergraduates early in the semester in an Introduction to Anthropology course taught by my colleague at CCSU, Professor Warren Perry. The course was a large section of approximately 200 students, the

vast majority of whom were taking the course to fulfill general education distribution requirements. The 139 correctly coded survey forms constitute the database of this survey. These results were directly compared with those derived from the 1984 sample. The comparisons are between two similar groups of essentially naive students. In both 1984 and 1994, most students in the samples had taken no anthropology or archeology courses previously, and in 1994 the survey was conducted early in the semester of this, their first anthropology course.

All of the statements students were asked to rate except two were repeated exactly as they had been presented in the 1983 survey. The statement that related to the pre-Columbian discovery of the New World by Europeans was clarified to measure belief in a pre-Viking as well as pre-Columbus European discovery of the Americas. The statement

Does a Decade Make a Difference? Comparing 1984 to 1994

The results of the survey surely cannot be characterized as encouraging, but neither are they calamitous. For example, figure 2 presents the results of the 1994 sample's response to the statement, "Aliens from other worlds visited the Earth in the prehistoric past," side by side with the results derived from the 1984 sample on the same statement. Combining the categories of strong and mild belief into a single, general category of "belief," and combining the categories of strong and mild disbelief into a general category of "disbelief," the results for this question are quite clear. The term that most succinctly defines and describes what we can see in the 1994 sample when compared to the group in 1984 on the issue of prehistoric extraterrestrial visitations is "polarization."

In the case of the "ancient astronaut" statement, the percentage of those expressing belief and the percentage of those expressing disbelief both have increased since 1984. Belief rose from 27% to 31% and disbelief rose from 32% to 40%. The middle position on the Likert scale one reflecting ignorance and a willingness to admit "I don't know"—has been abandoned for the poles of belief and disbelief. The proportion of those admitting that they simply do not know whether or not extraterrestrial aliens visited the earth in the ancient past has declined dramatically (from 40% to about 28%). Though the lines are more strongly drawn in 1994, once again those expressing "strong" feelings are in the minority among both believers and disbelievers.

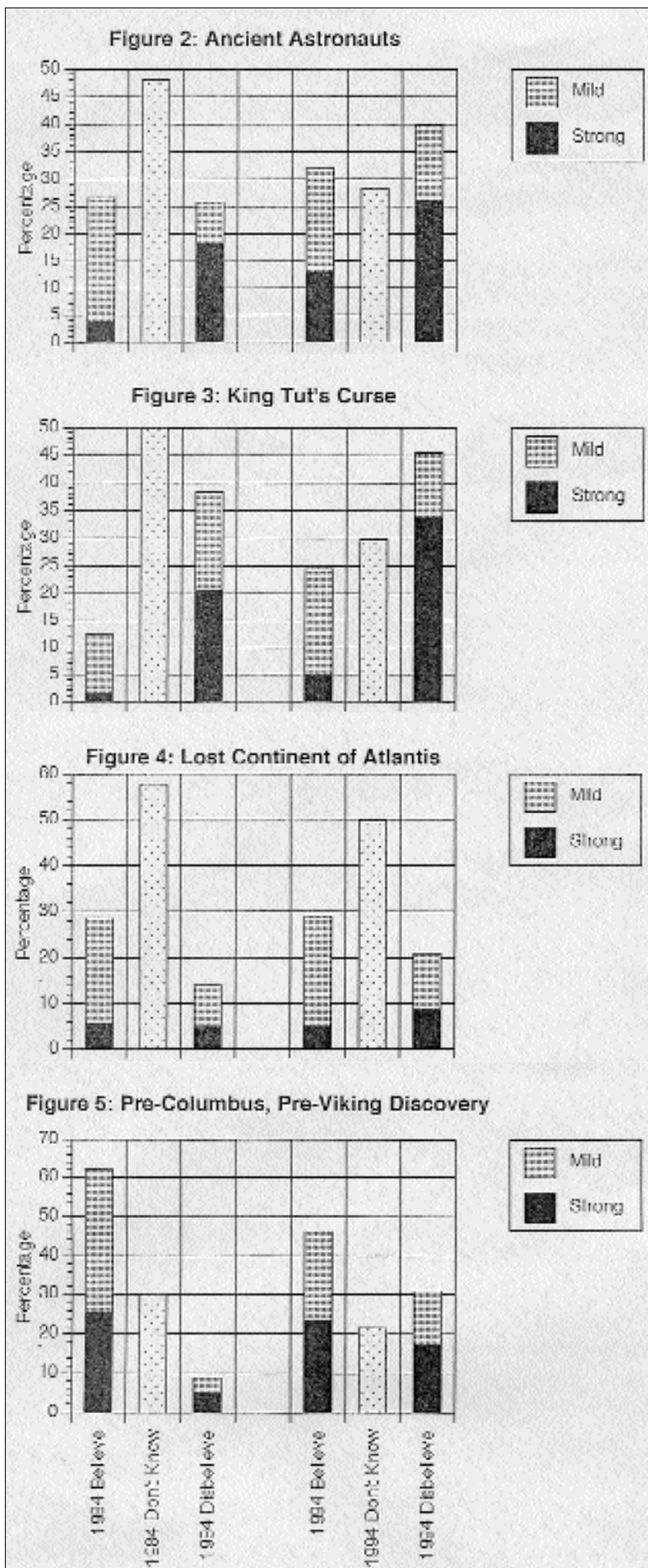
These results are surprising and distressing, considering how much further removed in time students are today from the heyday of Erich von Daniken⁶ than were the students who participated in the 1984 survey. After all, von Daniken's biggest selling book, *Chariots of the Gods*, was first published in English in 1969. Nevertheless, though few of today's students are likely to know his name and even fewer may be reading his books, the hypothesis von Daniken popularized in the late 1960s and early 1970s maintains a fertile breeding ground among undergraduate students more than 20 years later.

The ostensibly effective, deadly curse on the tomb of Egyptian pharaoh Tutankhamun is a concept with even less currency among today's students that von Daniken's ancient astronauts, yet here too opinions in 1994 are more highly polarized than in 1984 (figure 3). Student belief levels jumped from about 12% to close to 24%, while levels of disbelief experienced a jump from 38% to over 45%. Again, those indicating that they didn't know dropped from about 50% to 30%.

Figure 1: 1994 Survey Statements

1. Aliens from other worlds visited the Earth in the prehistoric past.
2. There is good evidence for the existence of the Lost Continent of Atlantis.
3. An ancient curse put on the tomb of the Egyptian pharaoh King Tut actually killed people.
4. America was discovered and settled by Europeans many before Columbus or the Vikings.
5. Human beings came about through evolution.
6. Human beings biologically just like us have been around for more than 100,000 years.
7. The Earth is about five billion years old.
8. The Bible is literally true.
9. Adam and Eve were the first human beings.
10. God created the universe in six actual, 24-hour days.
11. The flood of Noah, as told in the Bible, really happened.

concerning the first appearance of anatomically modern human beings was modified as a result of new dating and interpretation of early Homo Sapiens that has occurred in the last 10 years (changing the date of initial appearance of anatomically modern human beings from "about 40,000" to more than 100,000" years ago).



On a relatively more positive note—if virtually no change in student opinion between 1984 and 1994 can be characterized as “positive”—the reality of the Lost Continent of Atlantis elicited a response in 1994 quite similar to the 1984 sample (figure 4). Virtually identical percentages of about 29% believed in the lost continent in 1984 and 1994, with a somewhat higher proportion expressing skepticism in 1994. Once again, those admitting ignorance dropped (from 58% to 50%).

Because of my poor wording of the statement in 1984, and my subsequent rewording in 1994 on the issue of the discovery of the New World by Europeans before Columbus, the statistics from 1984 and 1994 are not directly comparable (figure 5). It should be pointed out, however, that even when the statement was clarified to include the Vikings and students were asked, essentially, whether they believe that the Americas were discovered by Europeans even before the Vikings got here, a substantial proportion—a plurality of about 46%—indicate that they do believe this. Only about 31% reject this claim, and 22% do not know.

These statistics are not particularly encouraging to those of us who teach undergraduates about the human past. On a more positive note, statements in the survey focusing on student knowledge related to evolution, the age of the earth, and the age of anatomically modern human beings consistently showed a high level of acceptance of scientifically verified data (figure 6). Though the percentage of those who accepted evolution dropped somewhat in 1994 when compared to the 1984 survey results (from 71% to 67%), strong belief rose a bit. Beyond this, acceptance of a five billion-year-old earth jumped dramatically (from 38% to 58%), with a sharp decline in those confessing ignorance: 57% to 34%. Disbelief held fairly steady, dropping only from 5% to about 4%.

Belief in the significant antiquity of the modern human species is higher today than it was in 1984. Though I modified the wording of this question to reflect current paleoanthropological interpretation of the antiquity of anatomically modern *Homo sapiens*, the results in 1994 are still directly comparable to those of 1984. While scientific consensus has expanded the antiquity of anatomically modern humans by a factor of about 2.5, either 40,000 or 100,000 years is quite a bit higher than the 6,000 year antiquity claimed for the species, the earth and the universe by a number of influential creationists.^{7, 8} Acceptance of the great antiquity of our species rose in 1994 rather precipitously from 23% to 52%. Disbelief increased somewhat from 14% to 19%, and those indicating that they did not know declined very substantially from 64% to 27%.

While it is indeed good news that these students seem better informed and more accepting in 1994 about the scientific interpretation of evolution and antiquity, these positive results must be tempered by the very high levels of acceptance of statements in the survey that reflect a literal interpretation of the book of Genesis in the Old Testament of the Bible. In every instance, belief levels in the reality of Biblical claims that are contradicted by science were higher, sometimes substantially so, in 1994 than levels in the 1984 sample. More students in 1994 expressed belief in the literal truth of the Bible, in the claim that Adam and Eve were the first human beings, in the historicity of Noah's Flood, and in the six-actual-day creation of the world by God (figure 7).

As distressing as these results may initially seem, the news actually gets worse. As indicated, for some of the previous, non-biblically related statements discussed here, student responses reflected greater polarization, with both belief and disbelief levels increasing from 1984 to 1994. But for three out of the four statements related to or reflecting a literal interpretation of the Bible, disbelief levels also declined. With the exception of the statement related to Noah's flood, where both belief and disbelief levels also increased between 1984 and 1994 (if only slightly), there is no mixed message here. A greater proportion of students in the sample expressed belief and a lower proportion expressed disbelief in statements that reflected a literal interpretation of the Old

Testament. This greater level of belief in a literal interpretation of Biblical claims related to human antiquity is likely a reflection of a growth in religious fundamentalism in the U.S. in the past decade.

An Archeologically Informed Public?

Many of us have worked hard in the decade since the first administration of my survey to counteract popular misconceptions about the human past. Stephen Williams⁹ and I¹⁰ have written books with a student as well as a popular audience in mind, both debunking extreme claims about the human past and, at the same time, explicitly showing the differences between genuine archeological research and a pseudoscientific or nonscientific approach to the past. A public education committee whose goal is an archeologically-informed public has been established within the Society for American Archaeology. Sessions open to and oriented toward the public have been held at the last few SAA national meetings and attendance has been gratifying.

But as hard as many of us have worked toward the goal of an archeologically-literate public substantially less-susceptible to nonsense about the human past, if the results

Figure 6: Antiquity

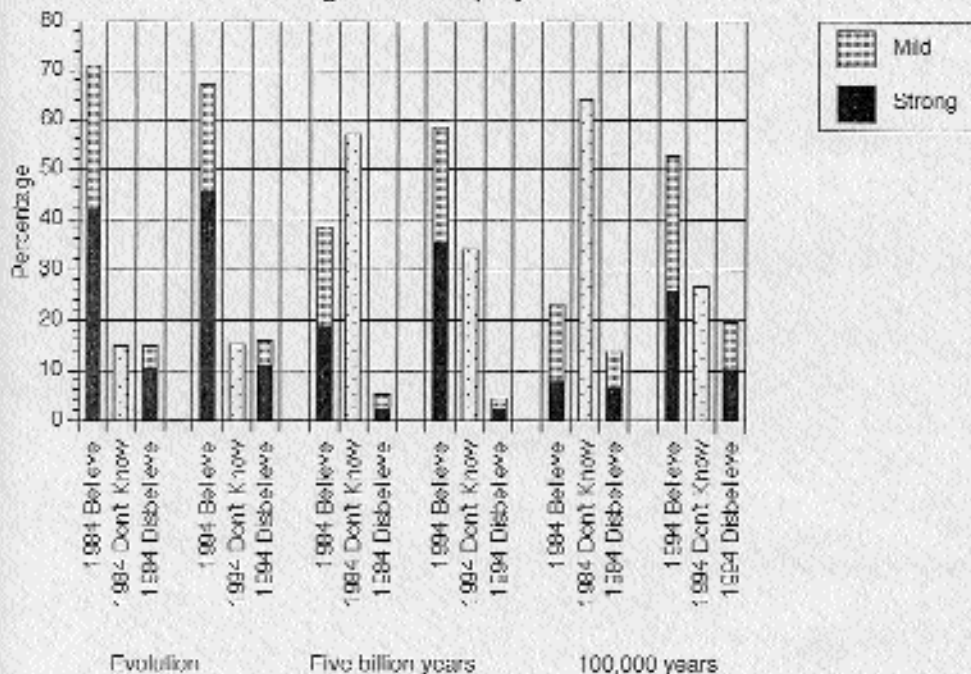
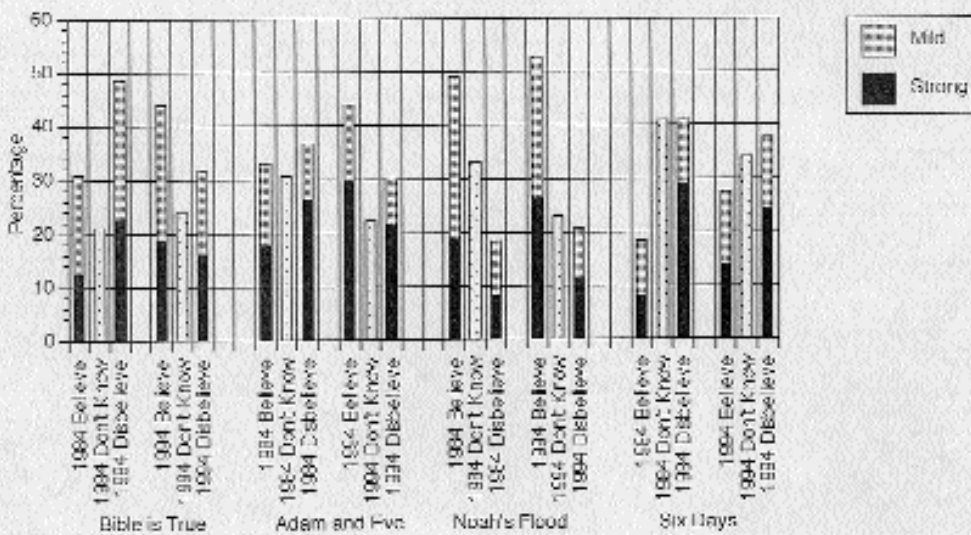


Figure 7: Religious Issues



of my survey can be generalized, it is beginning to look like we need to work harder and harder just to keep up with the pseudoscience that afflicts our discipline.

Archeologist William Turnbaugh has been polling his incoming archeology students since 1986.¹¹ Focusing to a greater degree on what they know about real archeology than extreme claims, Turnbaugh has found little change in his students since he began administering his survey. Students know a little about archeology when they enter the classroom: they recognize the Leakey name, for example, though few can associate it with a specific contribution—many assume Louis Leakey was the discoverer of Lucy. Most of what Turnbaugh's students know they have obtained from television or films and most of the films are fictional. Written sources are less often cited by students as sources of their archeological information.

All this shows how much work there is yet to do in attempting to create an archeologically informed public. It will not be easy considering the role of television in informing our students. Though there have been many valuable presentations concerning the human past on, for example, the Discovery Channel or PBS, a far broader audience has been exposed to archeological pseudo-documentaries on commercial television stations. Consider such stellar examples as *The Incredible Discovery of Noah's Ark* broadcast in 1993, and *Mysteries of the Ancient World* and *The Mystery of the Sphinx*, both broadcast in 1994. *Noah's Ark* and the *Sphinx* have generated some professional response aimed at a public audience. *Free Inquiry* published archeologist Richard A. Fox's response to the clearly fraudulent claims in the presentation on the ark.¹² *Archaeology* magazine published a group of articles on the Sphinx^{13, 14} with one directly aimed at responding to the video's claim of a far greater than accepted antiquity for the monument.¹⁵

It seems that we will always be in a position of having to present a double-pronged approach in attempting to produce a public knowledgeable about archeology. Certainly, proactive strategies like many of those discussed in this publication serve a vital function, informing people about the results and methods of "real" archeology, and conveying the excitement of the scientific investigation of the past. Equally certainly, we have no choice but also to follow a reactive strategy, responding to the specific nonsense about our discipline promulgated by the popular media. The results of this brief comparison between student perceptions in 1984 and 1994 indicate quite clearly that we need to work even harder at producing a public that understands and appreciates

the work done by people committed to a scientific study of the human past.

Notes

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- 8 Morris, Henry, *The Scientific Case for Creation*, (San Diego: Creation Life Publishers, 1977).
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Kenneth L. Feder is a professor of anthropology at Central Connecticut State University. He is author of Frauds, Myths, and Mysteries: Science and Pseudoscience in Archaeology (Mayfield).